6560-50-P

40 CFR Part 261

[EPA-R10-RCRA-2021-0142; FRL-10023-45-Region 10]

Hazardous Waste Management System; Proposed Exclusion for Identifying and Listing Hazardous Waste

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Proposed rule and request for comment.

SUMMARY: The Environmental Protection Agency (EPA) (also, "the Agency" or "we" in this preamble) is proposing technical amendments to an existing exclusion from the list of federal hazardous waste (delisting) issued to the United States Department of Energy (Energy) under the Resource Conservation and Recovery Act. These modifications address changes to the 200-Area Effluent Treatment System associated with the delisting necessary to accept liquid effluents expected to be generated from vitrification of certain low-activity mixed wastes at the Hanford Federal Facility, or Hanford Site, in Richland, Washington.

DATES: Comments must be received on or before [Insert date 30 days after date of publication in the FEDERAL REGISTER]. Requests for an informal hearing must reach the EPA by [Insert date 15 days after date of publication in the FEDERAL REGISTER].

**ADDRESSES:** Submit your comments, identified by Docket ID No. EPA-R10-RCRA-2021-0142 via www.regulations.gov: Follow the on-line instructions for submitting comments. Due to restrictions related to COVID-19, submission of comments via mail or hand delivery is not feasible at this time.

*Instructions:* Direct your comments to Docket ID No. EPA-R10-RCRA-2021-0142. The EPA's policy is that all comments received will be included in the public docket without change and may be made available online at www.regulations.gov, including any

personal information provided, unless the comment includes information claimed to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Do not submit information that you consider to be CBI or otherwise protected through www.regulations.gov or e-mail. The www.regulations.gov website is an "anonymous access" system, which means the EPA will not know your identity or contact information unless you provide it in the body of your comment. If you send an email comment directly to the EPA without going through www.regulations.gov your e-mail address will be automatically captured and included as part of the comment that is placed in the public docket and made available on the Internet. If you submit an electronic comment, the EPA recommends that you include your name and other contact information in the body of your comment and with any physical media you submit. If the EPA cannot read your comment due to technical difficulties and cannot contact you for clarification, the EPA may not be able to consider your comment. Electronic files should avoid the use of special characters, any form of encryption, and be free of any defects or viruses.

Any person may request an informal hearing on this proposed decision by filing a request with Timothy Hamlin, Director, Land, Chemicals and Redevelopment Division, EPA, Region 10, 1200 6<sup>th</sup> Ave., Suite 155, M/S 15-H04, Seattle, Washington 98101. The request must contain the information prescribed in 40 Code of Federal Regulations CFR 260.20(d).

Docket: All documents in the docket are listed in the www.regulations.gov index. Although listed in the index, some information may not be publicly available, e.g., CBI or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, will be publicly available only in hard copy form. Publicly available docket materials are available electronically through www.regulations.gov. Due to restrictions related to COVID-19, docket materials are not available in hard copy form

at this time. If you have further questions concerning docket materials, we recommend you telephone Dr. David Bartus at (206) 553-2804.

**FOR FURTHER INFORMATION CONTACT:** Dr. David Bartus, EPA, Region 10, 1200 6<sup>th</sup> Avenue, Suite 155, M/S 15-H04, Seattle, Washington 98101; telephone number: (206) 553-2804; fax number (206) 553-8509; e-mail address: bartus.dave@epa.gov.

As discussed in Section V of this document, the Washington State Department of Ecology is evaluating the Petitioner's request for this modification under state authority. Information on Ecology's action may be found at https://ecology.wa.gov/Waste-Toxics/Nuclear-waste/Public-comment-periods.

### **SUPPLEMENTARY INFORMATION:**

The information in this section is organized as follows:

- I. Overview Information
- II. Background
  - A. Hanford's 200 Area Effluent Treatment Facility
  - B. Hanford's Waste Treatment and Immobilization Plant
  - C. Changes to 200 Area Effluent Treatment Facility Capability
- III. The EPA's Evaluation of the Proposed Technical Amendments
  - A. Addition of Steam Stripping as a New Unit Operation
  - B. Changes to Treatability Envelope Demonstration Test Requirements
  - C. Miscellaneous Changes and Updates
- IV. When Would the EPA Finalize the Proposed Delisting Modification?
- V. How Will This Action Affect States?
- VI. Statutory and Executive Order Reviews

### I. Overview Information

The EPA is proposing technical amendments to an existing exclusion from the list of federally-listed wastes set forth in 40 Code of Federal Regulations (CFR) 261.33

previously issued to the United States Department of Energy (Energy) for the Hanford Federal Facility, or Hanford Site in Richland, Washington. See 40 CFR part 261, appendix IX, Table 2. This existing exclusion applies to treated effluent generated by Hanford's 200 Area Effluent Treatment Facility (ETF). As described below, these amendments relate to the planned startup of the Hanford Waste Treatment and Immobilization Plant.

Based on our review described in Section III of this document, we propose to approve the requested amendments.

## II. Background

# A. Hanford's 200 Area Effluent Treatment Facility

The 200 Area ETF is a radioactive aqueous wastewater treatment system located in the 200 East Area of the Hanford Site that provides treatment for a variety of aqueous mixed waste. This aqueous waste includes process condensate from the 242-A Evaporator, Hanford landfill leachates, and other aqueous waste generated from onsite remediation and waste management activities, potentially carrying a range of listed and characteristic dangerous waste numbers<sup>1</sup>. The 200 Area ETF consists of a primary and a secondary treatment train. The primary train includes treatment processes to treat both organic and inorganic waste constituents, including ultraviolet oxidation (UV/OX), reverse osmosis, ion exchange, pH adjustment and filtration. The secondary treatment train manages backwash from the primary treatment train filters, ion exchange regeneration, and the stream from the reverse osmosis system that is retained by the reverse osmosis membrane, also known as retentate. Construction of the 200 Area ETF began in 1992 with waste management operations beginning in November of 1995.

hazardous wastes.

<sup>&</sup>lt;sup>1</sup> The Washington State Department of Ecology is authorized to implement their dangerous waste regulations at Washington Administrative Code (WAC) 173-303 in lieu of the federal hazardous waste system, except for certain requirements, such as the state counterparts to the federal delisting regulations at 40 CFR 260.20 and 22. Under the dangerous waste program, dangerous wastes are a superset of federal

Treated effluent from the 200 Area ETF is discharged to the State Approved Land Disposal Site, or SALDS, located north of the 200 West Area of the Hanford Site. This disposal unit allows tritium remaining in the treated effluent to naturally decay in the subsurface – it is not authorized to accept dangerous waste. To this end, the EPA issued an exclusion from the list of hazardous wastes to Energy in 1995. See 60 FR 6054, February 1, 1995. This exclusion was amended by the EPA in 2005. See 70 FR 44496, August 3, 2005.

### B. Hanford's Waste Treatment and Immobilization Plant

The Waste Treatment and Immobilization Plant (WTP) is intended to process and stabilize much of the 56 million gallons of radioactive and chemical waste currently stored at the Hanford Site. As originally envisioned, the WTP would treat high-level and low-activity radioactive waste simultaneously. To begin treating waste as soon as practicable, Energy developed an approach to treat low-activity waste prior to the start-up of the WTP pre-treatment and the high-level waste facilities. This approach is called direct-feed low-activity waste, or DFLAW, and is focused on sending low-activity waste from the tank farms directly to the WTP Low-Activity Waste (LAW) Facility. A new Effluent Management Facility (EMF) has been constructed at the WTP to manage effluents generated from the WTP LAW Facility during DFLAW. The EMF is needed to evaporate the liquid secondary waste generated by the off-gas treatment system associated with the two WTP LAW Facility vitrification melters. Evaporator process condensate from the EMF, combined with WTP LAW Facility caustic scrubber effluents, will receive treatment at the 200 Area ETF, with the resulting treated effluent disposed of at the SALDS. The waste stream transferred from WTP to the 200 Area ETF is referred to as the WTP DFLAW effluent waste stream.

C. Changes to 200 Area Effluent Treatment Facility Capability
 Through the design and permitting of the WTP complex, Energy identified

several additional constituents it expected to be present in WTP DFLAW effluent waste stream which are not typically found in wastes managed by the 200 Area ETF, or are present at levels above the current capabilities of the 200 Area ETF. Most of these additional constituents are within the existing treatment capabilities of the 200 Area ETF, and do not require special consideration. One constituent, acetonitrile, which is formed in the WTP LAW Facility vitrification melters, is predicted to be present at levels in excess of the current capability of the 200 Area ETF, as reflected in the current organic treatability envelope documented in Table C–2 of the delisting petition dated November 29, 2001. Within the 200 Area ETF, the UV/OX system treats organic compounds, including but not limited to acetonitrile. However, acetonitrile is not easily degraded through UV/OX. Table C-2 in the November 29, 2001 petition shows an electrical energy per order (EE/O) of magnitude destruction of 50. EE/O reflects the relative difficulty for destruction of the organic constituent in the UV/OX unit. Constituents in Table C-2 with an EE/O of 40 or higher are considered hard to treat organics. After examining various options for addressing this issue, Energy determined that the addition of supplemental organic treatment in the form of a steam stripper to the 200-ETF to separate acetonitrile from treated effluents would be the preferred approach to ensuring additional constituents associated with the WTP DFLAW effluent waste stream can be effectively managed at the 200 Area ETF.

To accommodate the addition of the proposed steam stripper unit to the 200 Area ETF, two technical amendments are necessary to the current delisting. First, the list of unit operations in Condition (1)(d)(iv) of the current delisting must be amended to include steam stripping. Second, a new condition is necessary to establish a mechanism whereby Energy can operate the 200 Area ETF outside of the existing treatability envelope to gather demonstration test data to increase the treatability envelope concentration for acetonitrile to accommodate the predicted level in the WTP DFLAW

effluent waste stream.

### III. The EPA's Evaluation of the Proposed Technical Amendments

A. Addition of Steam Stripping as a New Unit Operation

In support of its request to modify the existing 200 Area ETF delisting, Energy has provided the EPA with an engineering report documenting the design and expected level of performance of the proposed steam stripper (docket entries EPA-R10-RCRA-2021-0142-DRAFT-0003 and EPA-R10-RCRA-2021-0142-DRAFT-0005). These reports include both a detailed process flow diagram for, and results of process simulation of the proposed steam stripper. This information provides assurance that, if the steam stripper is added to the 200 Area ETF primary treatment train, the overall treatment system can effectively treat the expected WTP DFLAW effluent waste stream and allow for successful verification of all existing delisting criteria, including but not limited to acetonitrile. Energy must also receive authorization to construct and operate the proposed supplemental organic treatment system from the Washington State Department of Ecology through their authorized dangerous waste permitting program, as well as other applicable state permits.

B. Changes to Treatability Envelope Demonstration Test Requirements

The existing 200 Area ETF delisting rule includes a mechanism, documented in Condition (1)(b), that allows Energy to modify the 200 Area ETF treatability envelope specified in Tables C–1 and C–2 of the November 29, 2001 delisting petition to reflect changes in treatment technology or operating practices upon written approval of the Regional Administrator. As stated in the rule, "Data supporting modified envelopes must be based on at least four influent waste stream characterization data points and corresponding treated effluent verification sample data points for wastes managed under a particular waste processing strategy." This mechanism will be used to expand the existing treatability envelope for acetonitrile but will require operation of the 200 Area

ETF outside the existing approved treatability envelope, which is otherwise not provided for in the delisting rule. To address this issue, the EPA is proposing to include a new condition (1)(c) that establishes a mechanism that will allow operation outside of the approved treatability envelope for purposes of gathering demonstration test data to amend the treatability envelope at a later time.

The purpose of this new mechanism is to allow the EPA an opportunity to perform a forward-looking technical evaluation of how the 200 Area ETF will be operated during the demonstration test in order to support a finding that, to a reasonable degree of certainty, delisting exclusion limits can be satisfied during the demonstration test. This mechanism requires Energy to provide the EPA with an engineering report and a demonstration test plan. The engineering report must document that the 200 Area ETF can be reasonably expected to produce treated effluent during the period of interim approval which satisfies the delisting levels in Condition  $(5)^2$ . The engineering report shall include, but is not limited to, engineering calculations, process modelling results, or performance data provided by equipment manufacturers. The demonstration test plan will complement the engineering report by documenting the composition of the waste feed to be used during the demonstration test, how the demonstration test will be conducted, how demonstration test sampling and analysis will be conducted, and a schedule for conducting the demonstration test.

The EPA will review these submittals to determine whether the demonstration test will yield data suitable for establishing an expanded treatability envelope for the target constituents, and that delisting exclusion limits will be satisfied during the demonstration test. Provided that this review demonstrates that these criteria can be met to a reasonable degree of certainty, the EPA will provide written interim approval to Energy to proceed

<sup>2</sup> In practice, the engineering report expected to be submitted in connection with a proposed demonstration

treatment plan is likely to be similar, if not identical to the engineering report included in the docket supporting this proposed modification of the existing 200 Area ETF delisting.

with the demonstration test according to the approved demonstration test plan. The effect of interim approval shall be limited to relief from the requirement of operating within the treatability envelope specified in Tables C-1 and C-2 of the November 29, 2001 delisting petition, as amended, during the period of demonstration testing. Once demonstration test data are available, Energy will then submit a completion report. The EPA's written approval of the completion report shall be considered approval of the modified treatability envelope pursuant to Condition (1)(b).

## C. Miscellaneous Changes and Updates

The EPA is also proposing to make several minor changes to address typographical errors, amend section numbering to reflect addition of a new condition, and to amend selected references to treatability envelopes in Tables C-1 and C-2 that may be updated to accommodate WTP DFLAW effluent waste stream to include the phrase "as amended." The EPA is also correcting certain references to Tables C-1 and C-2 to properly characterize their function as defining inorganic and organic treatability envelope data.

### **IV.** When Would the EPA Finalize the Proposed Delisting Modification?

40 CFR 260.20(c) requires the EPA to provide notice and an opportunity for comment before granting or denying a final exclusion. Thus, the EPA will not make a final decision or grant an exclusion until it has addressed all timely public comments on today's proposal, including any at public hearings.

Since this proposed rule is limited to technical amendments that apply to future activities, and is limited to a specific process and waste stream at the Hanford Site, the regulated community does not need a six-month period to come into compliance in accordance with section 3010(b) of RCRA, as amended by the Federal Hazardous and Solid Waste Amendments of 1984.

#### V. How Will This Action Affect States?

Because the EPA is proposing to issue this exclusion under the federal RCRA delisting regulations, only states subject to federal RCRA delisting provisions will be affected. This exclusion may not be effective in states which have received authorization from the EPA to make their own delisting decisions.

The EPA allows states to impose their own non-RCRA regulatory requirements that are more stringent than the EPA's, under section 3009 of RCRA. These more stringent requirements may include a provision that prohibits a federally issued exclusion from taking effect in the state. We urge petitioners to contact their state regulatory authorities to establish the status of their wastes under their respective state laws.

The EPA has also authorized some states to administer a delisting program in place of the federal program, that is, to make state delisting decisions. Therefore, this exclusion does not apply in those authorized states. If the Petitioner manages the waste in any state with delisting authorization, the Petitioner must obtain delisting authorization or other determination from the receiving state before it can manage the waste as nonhazardous in that state.

While Washington State has received final authorization to implement most of its dangerous waste program regulations in lieu of the federal program, including the listing and identification of listed waste codes associated with the petitioned wastes, it has not been authorized to implement its delisting regulations program in lieu of the federal program. The EPA notes that Washington State has provisions in the Washington Administrative Code (WAC) 173-303-910(3) similar to the federal provisions upon which this delisting is based. These provisions are in effect as a matter of state law. Thus, the Petitioner must seek approval from Washington State at the state level in addition to this proposed delisting.

### VI. Statutory and Executive Order Reviews

Additional information about these statutes and Executive Orders can be found at

http://www2.epa.gov/laws-regulations/laws-and-executive-orders.

A. Executive Order 12866: Regulatory Planning and Review and Executive Order 13563: Improving Regulation and Regulatory Review

This proposed action is exempt from review by the Office of Management and Budget because it is a proposed rule of particular applicability, not general applicability. The proposed action addresses modifications to an existing delisting petition under RCRA for the petitioned waste at a particular facility.

## B. Paperwork Reduction Act

This proposed action does not impose an information collection burden under the provisions of the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 *et seq.*) because it only applies to a particular facility.

# C. Regulatory Flexibility Act

Because this proposed rule is of particular applicability relating to a particular facility, it is not subject to the regulatory flexibility provision of the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*).

#### D. Unfunded Mandates Reform Act

This proposed action does not contain any unfunded mandate as described in the Unfunded Mandates Reform Act (2 U.S.C. 1531–1538) and does not significantly or uniquely affect small governments. The action imposes no new enforceable duty on any state, local, or tribal governments or the private sector.

### E. Executive Order 13132: Federalism

This proposed action does not have federalism implications. It will not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government.

#### F. Executive Order 13175: Consultation and Coordination with Indian Tribal

This proposed action does not have tribal implications as specified in Executive Order 13175. This proposed action applies only to a particular facility on non-tribal land. Thus, Executive Order 13175 does not apply to this action.

G. Executive Order 13045: Protection of Children from Environmental Health Risks and Safety Risks

This proposed action is not subject to Executive Order 13045 because it is not economically significant as defined in Executive Order 12866, and because the EPA does not believe the environmental health or safety risks addressed by this action present a disproportionate risk to children

H. Executive Order 13211: Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution or Use

This proposed action is not subject to Executive Order 13211, because it is not a significant regulatory action under Executive Order 12866.

I. National Technology Transfer and Advancement Act

This proposed action does not involve technical standards as described by the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note).

J. Executive Order 12898: Federal Actions to Address Environmental Justice in

Minority Populations and Low-Income Populations

The EPA has determined that this proposed action does not have disproportionately high and adverse human health or environmental effects on minority populations, low-income populations, and/or indigenous peoples. The EPA has determined that this proposed action will not have disproportionately high and adverse human health or environmental effects on minority or low-income populations because it does not affect the level of protection provided to human health or the environment.

K. Congressional Review Act

This proposed action is exempt from the Congressional Review Act (5 U.S.C. 801 *et seq.*) because it is a rule of particular applicability.

# List of Subjects in 40 CFR Part 261

Environmental protection, Hazardous waste, Recycling, and Reporting and recordkeeping requirements.

Timothy Hamlin, Director, Land, Chemicals and Redevelopment Division.

For the reasons set out in the preamble, the EPA proposes to amend 40 CFR part 261 as follows:

#### PART 261—IDENTIFICATION AND LISTING OF HAZARDOUS WASTE

1. The authority citation for part 261 continues to read as follows:

**Authority:** 42 U.S.C. 6905, 6912(a), 6921, 6922, 6924(y) and 6938.

- 2. In Appendix IX to Part 261, amend Table 2, under the entry "United States Department of Energy (Energy)" by:
- a. Revising Conditions (1)(a)(i) and (ii), and (1)(b);
- b. Redesignating Conditions (1)(c) and (d) as Conditions (1)(d) and(e);
- c. Adding a new Conditions (1)(c);
- d. Revising the newly designated Conditions (1)(e)(iv); and
- e. In Conditions (5) under the entry for "Organic Constituents" by:
  - i. Removing the entry "Dichloroisopropyl ether" and adding an entry
  - "Dichloroisopropyl ether— $6.0 \times 10^{-2}$ " in its place; and
  - ii. Removing the entry "[Bis(2-Chloroisopropyl) either]— $6.0 \times 10^{-2}$ ; and

ii. Removing the entry "Arochlor [total of Arochlors 1016, 1221, 1232, 1242, 1248, 1254, 1260]— $5.0 \times 10^{-4}$ " and adding an entry "Aroclor [total of Aroclors 1016, 1221, 1232, 1242, 1248, 1254, 1260]— $5.0 \times 10^{-4}$  in its place.

The revisions and additions read as follows:

APPENDIX IX TO PART 261—WASTES EXCLUDED UNDER §§260.20 AND 260.22

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TABLE 2—WASTES EXCLUDED FROM SPECIFIC SOURCES

| Facility                                    | Address                 | Waste description   |
|---|-------------------------|---|
| * *   | * *                     | * *   |
| United States Department of Energy (Energy) | Richland,<br>Washington | * * *   |
|   |                         | Conditions:   |
|   |                         | (1) * * *   |
|   |                         | (a) * * *   |
|   |                         | (i) Complete sufficient characterization of the waste stream to demonstrate that the waste stream is within the treatability envelope of 200 Area ETF as specified in Tables C-1 and C-2 of the delisting petition dated November 29, 2001, as amended. Results of the waste stream characterization and the treatability evaluation must be in writing and placed in the facility operating record, along with a copy of Tables C-1 and C-2 of the November 29, 2001 petition, as amended. Waste stream characterization may be carried out in whole or in part using the waste analysis procedures in the Hanford Facility RCRA Permit, WA7 89000 8967; |
|   |                         | (ii) Prepare a written waste processing strategy specific to the waste stream, based on the ETF process model documented in the November 29, 2001 petition, the March 31, 2021 modification request, and Tables C-1 and C-2 of the November 29, 2001 petition, as amended. For waste processing strategies applicable to waste streams for which organic envelope data is provided in Table C-2 of the November 29, 2001 petition, as amended, Energy shall use envelope data specific to that waste stream, if available. Otherwise, Energy shall use the minimum envelope in Table C-2.   |
|   |                         | (b) Energy may modify the 200 Area ETF treatability envelope specified in Tables C-1 and C-2 of the November 29, 2001 delisting petition, as amended, to reflect changes in treatment   |

| technology or operating practices upon written approval of the Regional Administrator. Requests for modification shall be accompanied by an engineering report detailing the basis for a modified treatment envelope. Data supporting modified envelopes must be based on at least four influent waste stream characterization data points and corresponding treated effluent verification sample data points for wastes managed under a particular waste processing strategy. Treatment efficiencies must be calculated based on a comparison of upper 95 percent confidence level constituent concentrations. Upon written EPA approval of the engineering report, the associated inorganic and organic treatment efficiency data may be used in lieu of those in |
|---|
| Tables C-1 and C-2 for purposes of condition (1)(a)(i).  (c) Where operation of the 200 Area ETF for purposes of gathering data supporting a modified treatability envelope pursuant to Condition (1)(b) requires operation outside of an existing treatability envelope or where a new treatability envelope is to be proposed, Energy may request interim approval to conduct such demonstration testing for purposes of developing a new or modified treatability envelope. Such a request must include the following documentation:   |
| (i) An Engineering Report documenting the basis for a modified treatability envelope. The Engineering Report shall, based on best available information, document that operation of the 200 Area ETF during the period of interim approval can be reasonably expected to produce treated effluent satisfying the delisting levels in Condition (5). The Engineering Report shall include, but is not limited to, engineering calculations, process modelling results, or performance data provided by equipment manufacturers;  (ii) A demonstration test plan documenting the following:   |
| (A) The quantity and characterization of the waste stream to be used in conducting demonstration testing, and information that will be included in the waste processing strategy required by Condition (1)(a)(ii) for the demonstration testing. The test plan shall document, to a reasonable degree of certainty, that data gathered from the demonstration testing will be suitable for use in modifying the treatability envelope pursuant to Condition (1)(b). The test plan may include provisions for "spiking" the demonstration test waste feed to ensure that a waste feed meeting the requirements of the test plan is available;  |
| (B) A sampling and analysis plan with supporting systematic planning documentation (e.g., Data Quality Objectives) and with an associated Quality Assurance Project Plan, for all sampling and analysis specific to the demonstration testing. A minimum of four independent sample sets over the course of the demonstration test are required from both the influent to the 200 Area ETF and the effluent to the verification tanks;  (C) A schedule for conducting the demonstration testing. The demonstration testing schedule may be based on functional criteria in addition to or in lieu of fixed calendar dates. The testing  |

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